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(=- NUMBERS & ODDITIES -=)
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This month we're on the Magical Mystery Military Numbers Tour. I hope you will like it. Enjoy ! Oh, and don't forget me. Send me so much news and stuff that I have to hire someone to sort it out :-)

Various stuff

- > A very rapid 'R' was heard for one night only on 3833 // 3768 kHz on 2-8 all night long. This was probably the French Air Force testing the equipment because FDC (FAF Metz) has been heard on both frequencies for almost a week now.
- > Mossad also seems to use VFT systems for their transmissions.
- > The 'Brotherhood'/SOUD stations RLX & UXW were extremely busy during the London conference on Bosnia, RLX sent monster messages to UXW for over an hour, so perhaps UXW is the Russian embassy in London. A strange header was sent from UXW to RLX on 14426 kHz 21/07/95, 09:11 UTC: 11177 40034 68983 21587 00043. Note that the last group of the message does not correspond to the usual brotherhood substitution system.

'Beacon' mystery unwrapped

Most of you must have heard them, the 4-character callsigns that haunt the 2-5 MHz bands. Even with the current poor conditions lots of the stations have booming signals during the evenings in Western Europe. In a feature in the June '86 issue of Popular Communications they are called 'Commercial beacons'. After all these years I still do not get what the author meant by that. Anyway, they are everything but commercial. Just like the single letter channel markers, these stations are Eastern European military stations with Russia as the major participant of course.

The transmissions are loaded with Q-codes and often 5F groups are sent. The stations are using CW upto 30 wpm and the callsigns always consist of 4-character groups either 1 digit and 3 letters, 2 digits and 2 letters or 4 letters. Note: there are no combinations where 2-digits are next to each other except in the middle of the callsign (eg A12B, no 12AB or AB12). Here are a couple of typical lines. Each line comes from a different station:

VPV6 DE 3AYJ QRU? QSA3/4? OK?
CMMU DE 5E9S QTA QTX RPT

VVV DE 9AKO QRK3? QRU QSA? RPT
 9Q9L DE DCNE. QSA2/3 QRQ16 QRK4 QRU? QRU QLW QRU?
 Q6VH DE HK1M QAP?
 OVQC DE PRJJ QLW QSA2/3 QRK QRU NIL
 MDBS DE QPYA OK QTC 149 QRQ14 RPT AA?
 3PIQ DE 3INP QSA?
 Z6G0 DE T07R (followed by 5F groups) QJG QRO QYT1 QRV
 IGDK DE HK1M QYT6 QYT8 OK? QSX?

This one is a bit different from the rest of the stuff. These messages pop up every now and then on 4602.5 kHz. They are repeated 2 times.
 XXX XXX ESUP ESUP 45530 26798 BATIST (heard on 4-7)
 XXX XXX ESUP ESUP 06365 BARWINOK 570 (heard on 6-7)
 These messages are transmitted by the Net Control Station (ESUP in this case) and begin always with 'XXX XXX'. The messages are probably staff messages like the USAF 'Skyking'. This is a Russian duplex network and you can find the other end on 4937.5 kHz.

For those who are not familiar with the Q-codes, here's the translation. I must say that there were a couple of new ones for me too !
 Note: the meaning of these Q-codes differ sometimes from the same amateur or maritime Q-codes.

- QAP = keep listening on ... kHz
- QJG = revert to automatic relay
- QLW = test transmission
- QRKx = the intelligibility of your signals is x. Where x is 1.bad, 2.poor, 3.fair, 4.good, 5.excellent
- QRO = increase transmitter power
- QRQx = transmit with x words per minute.
- QRU = I have nothing for you.
- QRV = I am ready
- QSAx = the strength of your signal is x. Where x is 1.barely readable, 2.weak, 3.fairly good, 4.good, 5.very good
- QSX = I am listening to ... (callsign) on ... kHz
- QTA = cancel message nr...
- QTC = I have messages for you
- QTX = stop with.... (depends on the code following QTX)
- QYTx = reference to another transmission, where x marks the number of the transmission. On 4602.5 kHz, the highest number used is 8.
- RPT AA = repeat all after

The most active frequency was 4602.5 / 4937.5 kHz during the past few months, followed by 4119, 3067 and 4058 kHz. I logged the following stations during April-July:

- 3067.0 kHz, NSNO, NT73, E68W, KR1K
- 4058.0 kHz, 3INP, 2M8V, 4B7C, Q8TC
- 4119.0 kHz, OTBA, VVYV, T07R, WLGL, 1J4W, AWVB, VA7I
- 4601.0 kHz, RGC7 (w/Z4C5 on 4602.5 _not the same network as 4937.5_)

4602.5 kHz, 3AYJ, GAGX, 8NLG, BASG, 9AKO, SVAK, ESUP, 5E9S, Z4C5,
CHLN, VDHN, MBJX, W6HA, HJSN, QPYA, HKMR, KOAT, CMMV,
HK1M, AEKN, 8MKR
4937.5 kHz (other end of 4602.5)

This frequency list is far from complete. It is based on the activity during the past 3 years. During that period activity has been noted on the following freqs: 2238, 2285, 2302, 2362, 2546, 2733, 2748, 2854, 2878, 3055, 3064, 3067, 3089, 3228, 3256, 3282, 3286, 3298, 3486, 3803, 3831, 3938, 4058, 4119.5, 4601, 4602.5, 4898.5, 4951.5, 5058, 5117, 5138, 5144, 5153, 5241, 10038, 13207 kHz.

Please note that not all 4-character stations on these frequencies belong to the Russians. The 4602.5 / 4937.5 link is Russian, while the Czech Army can be found on 5144 kHz, but there may be other Eastern European stations as well. As usual, the stations quite often change their frequencies, so you have to search for them but you'll find them soon enough. 4602.5 kHz seems to be deserted at the moment but judging from the past, they will return sooner or later.

Tip: when you see the 'XXX XXX' messages, then you have a very good chance that you caught a Russian station. These messages can also be helpfull to define the various groups of stations on these networks.

Timesignal stations ? Nope !

Another type of mystery station that is around for quite some time, is often wrongly indicated as a time signal station. In fact, this is not one single station but a network of stations belonging to the Russian forces. To the Russian Air Defense Forces to be more precise. This is a typical message that can be best described as a QRV message: 'BT990457??8?????'. The digit after the first two question marks is 8 on 3839 kHz but may be different on other frequencies. Each message starts with BT -...- followed by 99 and the time, being UTC+x. Then two question marks ?? ..--.. followed by a digit and again five question marks. Each message that starts with another combination than 99 is followed by a 'normal' message. The combination consists of 2 equal digits like 44, 66 etc. The messages have a length of 13 characters (including BT), the QRV messages count 16 characters. The time that is transmitted on these stations is not very precise, it is often 1 to 3 minutes off. The timestring can vary from station to station from UTC+3 to 6 or even up to +12 hours, depending on the geographical area that the station serves.

These stations have been heard on many frequencies. Here is the list: 2316, 2360, 3825, 3839, 4402, 5053, 5181, 5205, 5214.5, 5369.5, 6635,=20 6800, 7530, 8084 kHz. At the moment 3839 and 6635 kHz are quite active in the European evenings.

In the early 90's a similar station could be found on 5416 kHz. It transmitted in 50bd RTTY and sent the following QRV message:
VV99+1804+0+++++ The timestring was UTC+1. Just like the CW stations, this also was a military station. Probably belonging to the Russian forces in Eastern Germany or the East German forces.

The USAF numbers broadcasts, pt2.

I am sure that every person who regularly listens to GHFS stations have heard the character strings commonly known as EAMs (Emergency Action Messages). So, what's an EAM ? This definition of an EAM is taken from a USAF Manual: ''Joint Chiefs of Staff Emergency Action Messages contain key instructions or information from high level authority and have predetermined formats. Such messages are transmitted by various communications systems and normally carry FLASH precedence. They are vital messages of an extremely time-sensitive nature, and rapid processing is mandatory to obtain the fast reaction required by their content. Usage and handling procedures are of the highest classification and have been issued by the Joint Chiefs of Staff only to those who have a need to know.''

Sample EAM:

''Alpha Romeo Yankee Four One Tango standby. Alpha Romeo Yankee Four One Tango standby. Alpha Romeo Yankee Four One Tango standby, message follows. Alpha Romeo Yankee Four One Tango Bravo Two Charlie Delta Oscar Three Five Seven Lima Hotel Six Quebec Uniform India Juliet Mike Zulu Kilo Papa Foxtrot. Offutt out.''

The following information is a small subset of what has appeared on the Grove BBS since July 1994. It was compiled for this article by Jeff Haverlah. The information grew out of an attempt by Larry Van Horn and Jeff to discover what was common on the GHFS so that the 'uncommon' becomes noticeable. This is what Jeff writes:

As with most hobbyists, EAMs were something to hear but ignore. When I took the time to actually listen to these things, 'conventional wisdom' went by the wayside!

- 1) All EAMs consist of two parts - A 'preamble' that consists of 6 characters (a change from 5 characters at the June '92 demarcation); and the body of the string, which is read as a concatenation of the preamble and the following characters in the string.
- 2) The first two characters of any preamble are static (they do not=20 change) over a period of time. It's these two characters that help you denote the character-count type of EAM that you are hearing.
- 3) In counting the characters in an EAM string (including the preamble) you will find:
-> The most common EAM consists of 26 characters, with a preamble whose

first two characters remain static for a period of time that seems to vary from 26 days to as low as 8 days; and before Dec 94 seemed to stay static for an average of 2 weeks. (It's 'D5' now -Ary-).

- > Also very common is the EAM with the same static characters as the 26-count EAM, but consists of 20 characters.
- > From around the end of Nov 94 to maybe April 95, there was a rare EAM with the 26-character EAM's static characters that was 6 characters in length (an EAM that consisted of only it's preamble). When a 6-character EAM was heard, with rare exception, it would seem to be part of a 6/20/26 character EAM set over a 15 minute period. Around the time that the 6-character EAMs seemed to disappear from the GHFS, there appeared a new 'set' that seemed to consist of a grouping of 20/20/26 character EAMs over a 10 minute period. Here's an example:
11244.0 2049z 03/03/95 OFFUTT with MAINSAIL.
2049z QJ24AY 7NYEBR5F25PV54 (20 character)
2054z QJ3WAX NSFKTXSTU7EB5P (20 character)
2058z QJUCU4 2FS7EKHW7UK325UYAW3G (26 character)
- > In a marked change from the (6)/20/26 character set EAM universe, there are rare transmissions of what I call variable-character EAMs (but probably should call variable character-count EAMs.) These are EAMs whose character-counts can vary from maybe the low 20's to massive EAMs that can have multi-hundred character counts (the highest heard by me so far is a 500+ character EAM on 19 May 95). As with the 20/26 character-set EAM universe, these variable-count EAMs are denoted by the first two characters of the preamble, which seem to remain static for a period of time that seems to average 2 months, sometimes much less, sometimes much more. As heard by me in North America, there seem to be no more than 2 different static-character sets active at any one time in the variable character-count universe (as this is written, R3... and YY...). But, based on two loggings by Ary Boender, there may be a third set (M3...) that seemed to be co-active with the R3.. EAMs, at least as heard in Europe. (Unusual vs. usual, remember? Which leads to the question 'are there different character sets in use outside of CONUS')
- 4) The EAM itself is of interesting construction:
 - > The EAM character-set (since Jul 94, when the monitoring started) consists of 32 characters:
 - A) All 26 characters of the English alphabet.
 - B) Numerals 2, 3, 4, 5, 6, and 7 (six characters).
 - C) There are no zeros, ones, eights, or nines.
 - > In the variable character-count EAM universe, there are occasions when there are multi-character 'groupings' within the EAM that will repeat in the body of the EAM; and, sometimes maintain relative positions throughout the body as they repeat.
- 5) There can be distinctive transmission patterns in these things:
The EAMs heard on the GHFS are first heard on the NIGHTWATCH nets on the old GIANT TALK frequencies, plus sometimes still on USN freqs. Usually broadcast by a daily tactical callsigned station,

who is the same station each day (sometimes with the same operators), just using a different callsign. The operator works in a very noisy environment - trigraphs, character strings, 'warble tones' can be heard in the background. The operators also use very distinctive diction. Sometimes, the initiating station is NIGHTWATCH 01 itself. Within a few seconds, to a few minutes of this broadcast, the GHFS will lightup with a very powerful carrier, followed shortly by OFFUTT, ANDREWS, or MCCLELLAN with a call to MAINSAIL and start the GHFS rotation of the EAM. (There can be slight variations to this pattern.) Rarely, NIGHTWATCH 01 will pull a station such as MACDILL off to a published discrete frequency, where NIGHTWATCH 01 will dictate the EAM to the GHFS station 'for injection to AUTODIN.' Within seconds of completion, this EAM will be transmitted on the GHFS.

Usually, an EAM is broadcast once on the NIGHTWATCH net; once on the GHFS (by all stations except ALBROOK, BAYONNE, and ASCENSION); and that's it. Recently it's been noticed by Ary Boender and myself that CROUGHTON and ANDREWS will rebroadcast an EAM (sometimes at an apparent hourly schedule) hours after the initial GHFS cycle was completed. Also, during self-described exercises the NIGHTWATCH nets will repeat one or more EAMs constantly over varying periods of time but is not joined by the GHFS.

On somewhat rare occasion, an EAM can be transmitted 'for' a callsign or multiple callsigns, in which case the message starts something=20 like this: 'for Chewing Gum, for Chewing Gum' followed by the EAM.

A) Almost always these 'For...' EAMs are 20 characters.

B) Very rarely, they can be variable count EAMs: EAMs 'for' theaters/commands, and something a few months ago for SOARHAWK.

C) The only 'for' callsigns that seem to be static in nature (besides the Theater/Command things) are EAMs 'for' REGION "alpha character" (heard: ALPHA; BRAVO; CHARLIE; DELTA); and variable character-count EAMs 'for' SOARHAWK.

D) They can happen at any time, but an apparent favorite time for these is between 1200z-1300z (1300z-1400z Standard time) on Tuesdays.

- 6) On the NIGHTWATCH nets, the EAMs are called 'traffic.' Usually, the most recent EAM is called 'current traffic.' Stations 'entering the net' that do not have 'current traffic' are immediately read the 'current traffic' after the authentication process is complete. I have heard only one instance on the net, at the end of a long exercise in March '95, where these things were called "Eee Aaa Emms".

I'd like to thank Jeff for this in depth EAM article, Carter Bennet and Larry van Horn for their input, Carter for the EAM checker and of course the NN guys who sent me some useful stuff as well. That's all for now folks. See ya next month, Ary